

AD-A174 213

This Document
Reproduced From
Best Available Copy

(2)

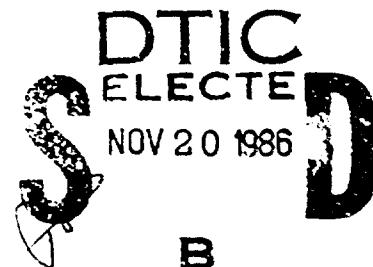
BOLT FROM THE SKY:

The Operational Employment of Airborne Forces

By

Major Thomas G. Waller, Jr.
Field Artillery

School for Advanced Military Studies
U.S. Army Command and General Staff College
Fort Leavenworth, Kansas



17 May 1986

Approved for public release; distribution is unlimited.
Requests for this document must be referred to U.S. Army
Command and General Staff College (ATTN: A7Z-SMV), Fort
Leavenworth, Kansas 66027.

APPROVED FOR PUBLIC RELEASE:
DISTRIBUTION UNLIMITED.

86-3644

86 11 18 136

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified	1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY	3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited.		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE		4. PERFORMING ORGANIZATION REPORT NUMBER(S)	
5. MONITORING ORGANIZATION REPORT NUMBER(S)		6a. NAME OF PERFORMING ORGANIZATION School of Advanced Military Studies, USACGSC	
6b. OFFICE SYMBOL (If applicable) ATZL-SWV		7a. NAME OF MONITORING ORGANIZATION	
6c. ADDRESS (City, State, and ZIP Code) Ft. Leavenworth, KS 66027-6900		7b. ADDRESS (City, State, and ZIP Code)	
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (If applicable)	
9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		8c. ADDRESS (City, State, and ZIP Code)	
10. SOURCE OF FUNDING NUMBERS		PROGRAM ELEMENT NO. PROJECT NO. TASK NO. WORK UNIT ACCESSION NO.	

11. TITLE (Include Security Classification)

BOLT FROM THE SKY: The Operational Employment of Airborne Forces

12. PERSONAL AUTHOR(S)

MAJOR THOMAS G. WALLER, JR.

13a. TYPE OF REPORT Monograph	13b. TIME COVERED FROM _____ TO _____	14. DATE OF REPORT (Year, Month, Day) 860517	15. PAGE COUNT 48
----------------------------------	--	---	----------------------

16. SUPPLEMENTARY NOTATION

17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	Airborne operations; airborne forces; operational level; operational employment; air landing; airlift; air support.

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

See Reverse.

This Document
Reproduced From
Best Available Copy

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS	21. ABSTRACT SECURITY CLASSIFICATION Unclassified
22a. NAME OF RESPONSIBLE INDIVIDUAL MAJOR THOMAS G. WALLER, JR.	22b. TELEPHONE (Include Area Code) (913) 684-2138 22c. OFFICE SYMBOL ATZL-SWV

ABSTRACT

BOLT FROM THE SKY: The Operational Employment of Airborne Forces, by Major Thomas G. Waller, Jr., USA, 48 pages.

This study explores the utility of employing airborne forces at the operational level of war in a mid- to high intensity environment. It first examines the theory of airborne warfare and the evolution of the airborne idea from pre-World War II until the present. Its major finding is that despite the theoretical capability of airborne forces to achieve surprise, psychological shock, physical momentum, and moral dominance enabling friendly forces to attain decisive operational success, the U.S. Army has limited its vision on the employment of airborne forces to the tactical and strategic levels. The study then looks at the feasibility of airborne operations, both historically and in today's environment of combat, and finds that, while always risky, small-scale airborne operations are feasible at the operational level. Finally, the study considers what form such an employment might take. Looking at Soviet theoretical concepts, several German World War II operations, and the three major Allied airborne operations, Sicily, Normandy, and Operation Market-Garden, the study relates ideas developed from these examples to type missions airborne forces may be called upon to execute in the 1980's. These include airborne drops behind enemy lines to seize key terrain such as a river crossing site or mountain pass, which would facilitate a ground force deep operation, drops to tie up enemy reserves to enable amphibious operations or large river crossings to succeed, or vertical envelopments of key points of an enemy defensive belt.

There are numerous historical examples in which brigade-sized or smaller airborne forces were employed in the true spirit of maneuver warfare in combination with other ground forces. Where such maneuvers depended on the success of the airborne operation for overall success, it is evident that even small scale airborne forces had decisive operational impact. Since the U.S. Army and Air Force today are capable of employing only brigade-size and smaller units at the operational level, this is an important finding. As the U.S. Army attempts to develop a maneuver style of warfare while implementing its AirLand Battle Doctrine, the air dimension and maneuver capabilities of airborne forces must not be neglected.

BOLT FROM THE SKY:
The Operational Employment of Airborne Forces

By

Major Thomas G. Waller, Jr.
Field Artillery

School for Advanced Military Studies
U.S. Army Command and General Staff College
Fort Leavenworth, Kansas

17 May 1986

DTIC
ELECTED
NOV 20 1986
S D
B

Approved for public release; distribution is unlimited.
Requests for this document must be referred to U.S. Army
Command and General Staff College, DTIC: 072-8M, Fort
Leavenworth, Kansas, 66021.

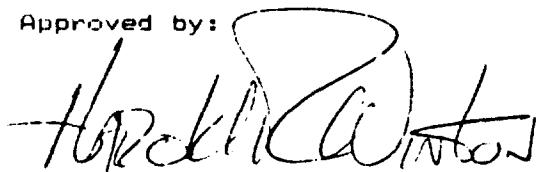
APPROVED FOR PUBLIC RELEASE
DISTRIBUTION UNLIMITED.

86-3644

MONOGRAPH APPROVAL

Name of Student: Thomas G. Waller, Jr., Major, Field Artillery
Title of Monograph: Bolt from the Sky: The Operational Use of Airborne Forces

Approved by:



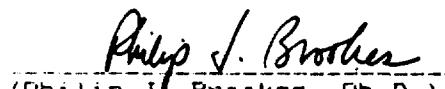
Monograph Director

(LTC Harold R. Winton, Ph.D.)



(COL Richard Hart Sinnreich, MA)

Director, School of Advanced Military Studies



(Philip J. Brookes, Ph.D.)

Director, Graduate Degree Programs

Accepted this 17th day of May 1986.

Accession for	
NTIS	<input checked="" type="checkbox"/>
DTIC	<input type="checkbox"/>
Univ. Microfilms	<input type="checkbox"/>
Other	<input type="checkbox"/>
PER CALL JC	
Ref	
Distribution/	
Availability Dates	
Avail until/er	
Dist	Serial
A-1	



ABSTRACT

BUILT FROM THE SKY: The Operational Employment of Airborne Forces, by Major Thomas G. Waller, Jr., USA, 48 pages.

This study explores the utility of employing airborne forces at the operational level of war in a mid-to high intensity war environment. It first examines the theory of airborne warfare and the evolution of the airborne idea from pre-World War II until the present. Its major finding is that despite the theoretical capability of airborne forces to achieve surprise, psychological shock, physical momentum, and moral dominance enabling friendly forces to attain decisive operational success, the author has found that the U.S. Army has limited its vision on the employment of airborne forces to the tactical and strategic levels. The study then looks at the feasibility of airborne operations, both historically and in today's environment of combat, and finds that, while always risky, small-scale airborne operations are feasible at the operational level. Finally, the study considers what form such an employment might take. Looking at Soviet theoretical concepts, several German World War II operations, and the three major Allied airborne operations, Sicily, Normandy, and Operation Market-Garden, the study relates ideas developed from these examples to type missions that airborne forces may be called upon to execute in the 1980's. These include airborne drops behind enemy lines to seize key terrain such as a river crossing site or mountain pass, which would facilitate a ground force deep operation, drops to tie up enemy reserves to enable amphibious operations or large river crossings to succeed, or vertical envelopments of key points of an enemy defensive belt.

There are numerous historical examples in which brigade-sized or smaller airborne forces were employed in the true spirit of maneuver warfare in combination with other ground forces. Where such maneuvers depended on the success of the airborne operation for overall success, it is evident that even small scale airborne forces had decisive operational impact. Since the U.S. Army and Air Force today are capable of employing only brigade-size and smaller units at the operational level, this is an important finding. As the U.S. Army attempts to develop a maneuver style of warfare while implementing its AirLand Battle Doctrine, the air dimension and maneuver capabilities of airborne forces must not be neglected.

Table of Contents

Introduction.....	1
The Theory of Airborne Operations.....	3
The Evolution of the Airborne Idea.....	8
Theory to Practice:	
The Question of Airborne Feasibility.....	19
Operational Employment of Airborne Forces in the 1980's.....	29
Conclusion.....	38

Introduction

The British airborne soldier and theorist Maurice Tugwell relates the story of General Karl Student's triumphant return to Berlin after his airborne troops had astounded the world by seizing the island of Crete in an audacious airborne assault in May of 1941. After being decorated with the Knight's Cross for his exploits, Student relaxed over coffee with the Fuehrer, hoping to discuss equally audacious and significant future missions for his fallschirmjaegers. He was astounded when Hitler looked at him and said, "Of course you know the day of the paratroops is over."¹ Although Hitler's prophecy turned out to be incorrect in a literal sense, since the Allies went on to conduct some twenty major airborne operations in World War II, debate over the efficacy of airborne operations has raged ever since. Opinion covers a broad spectrum -- some hold that airborne troops never had much utility, while others believe that paratroopers, like cavalrymen, had their day. Still others insist that airborne operations retain a very important role in warfare. Tugwell himself argues the conventional wisdom of today, that airborne forces remain extremely important as highly mobile, strategically deployable forces, but forces which can be used profitably only in strategic roles. Heliborne forces, he says, have the same tactical and operational capabilities as airborne forces, and

are much more efficient and cost-effective to employ at those levels.²

The idea behind airborne warfare, however, that of the vertical envelopment, seems to offer interesting possibilities for the maneuver style of warfare described in the United States Army's AirLand Battle Doctrine. By definition, an airborne operation suggests rapidity, unpredictability, violence, and depth which have led historically to disorientation and dislocation of opposing forces.³ As part of the structure of modern warfare, AirLand Battle describes the operational level of war, that is, the level of campaigns and major operations. It will be the purpose of this monograph to explore the utility of using airborne forces at this level in a mid- to high-intensity environment. While there have been many forms of "airborne" forces, to include glider, helicopter, and fixed-wing, air-landed forces, "airborne" in this study refers specifically to general purpose parachute-landed troops. Grenada proved the utility of airborne forces tactically in a low-intensity environment.⁴ It also confirmed their value as rapidly deployable strategic forces. The question remains, however, whether significant airborne formations can be employed in the more lethal environment of a mid- to high-intensity war, and if they can be, whether they are capable of accomplishing missions significant enough to warrant

the risk and expenditure of support assets necessary for their success. The paper will explore these issues by first considering the theoretical and historical basis for the employment of airborne forces in an operational role. We will then examine evolving concepts of the feasibility of the employment of airborne forces. Finally, we will reconsider the possible forms and concepts of employment of airborne forces in the late 1980's.

The Theory of Airborne Operations

What does it mean to employ airborne forces in an operational role? Before embarking on airborne theory, we must first consider some more fundamental theoretical issues. Some confusion exists today over just what constitutes the operational level of war. FM 100-5 explains that the operational level is that of a series of joint actions that comprise a campaign within a theater of war. A campaign consists of a progressive sequence of major operations aimed at attaining the strategic goals for the theater. The essence of the operational art, according to FM 100-5, is the identification of the enemy's center of gravity -- his source of strength or balance -- and the concentration of superior combat power against that point to achieve decisive success.⁵ The point of confusion concerning airborne operations centers around the historic debate over whether an airborne force is

capable of "major operations". FM 100-5 describes major operations as the coordinated actions of large forces in a single phase of a campaign or in a critical battle.⁶ Many analysts of airborne operations have assumed that a major operation must be conducted by a large unit whose subordinate forces are merely tactical components. For an airborne force to be employed at the operational level of war, by conventional logic it must be a large, self-contained force capable of independent operations. Otherwise, it is simply performing a tactical function as part of a larger force. Such analysts usually cite the German airborne conquest of Crete as the typical example of the use of an airborne force in an operational role.⁷ It is a minor contention of this paper that such a theoretical demand for an airborne force, that is, that it be capable of "major operations" on the same scale as conventional ground forces, fails to envision the impact that the special capabilities of airborne forces can have which transcend the limitations of ground forces.

AirLand Battle Doctrine suggests that engagements, battles, and even campaigns cannot be viewed as discrete events. A strong relationship exists, therefore, between tactics, operations, and strategy.⁸ Hence the sequencing of actions makes time an important function of any given level of warfare. Tactics focus on the present, while operations look

to the future as well as the present. Closely linked to the function of time is that of space. Since tactics focus on the present, then the tactical space of a unit consists of that space within the range of direct and indirect fire weapons systems and intelligence gathering systems. In certain instances the functions of time, space, and size of unit provide a useful, if formulistic, approach to what is tactical and what is operational. Specific unit headquarters must know for what space they are responsible and for what actions they must plan. Divisions have capabilities afforded by size and range of available weapons and intelligence gathering systems to affect actions within about fifty Kilometers, and such a short distance compels decisions now or within a very short period of time on what is to occur within that space. It is appropriate that divisions are involved in tactics. The Soviets approach the problem of tactics and operations in precisely this formulistic fashion, and assign tactical, operational, and strategic missions to units based on norms of unit size and scope of operations.⁹ Quite obviously, then, a corps or larger unit can operate at tactical and operational levels simultaneously, since a corps fights an immediate battle, but at the same time must also look beyond now to plan a sequence of actions for several days.

Still, there remain other factors which impinge upon the

operational level of war. The Soviets believe that the nature of the objective constitutes the most important consideration in deciding which headquarters is given planning responsibility and whether the mission will be tactical, operational, or strategic. A river crossing, for example, may be any of the three levels based largely on the significance of the obstacle. Crossing small streams and rivers takes relatively small forces and little time, thus the focus is on now and on the crossing itself -- on tactics. Eisenhower's plans for crossing the Rhine, however, looked toward developing a future capability for operations that did not exist as long as the Allied forces were on the west bank. Eisenhower looked to the future, and the crossing of the Rhine was an operational or perhaps even a strategic action. It is ironic that the planned crossing was an operation larger than the invasion of Normandy, yet a bridgehead was seized at Remagen in a coup de main conducted by a battalion task force.

This rather lengthy discussion is a necessary prelude to the consideration of the use of airborne forces operationally, because although they possess some very severe operational limitations, they also have some very unique capabilities which cause us to question the application of conventional norms to what they do. Consider an example. In the early morning of May 10, 1940, 85 men silently descended upon and neutralized

the powerful Fortress Eben Emael, which guarded three important bridges and the Allied defense line along the Albert Canal in Belgium. Simultaneously, an airborne battalion seized two of the three bridges, and thus opened a corridor into the Low Countries. In a matter of a few hours German panzer divisions were plunging into operational depths, which not only allowed them to link up with other airborne drops near Rotterdam and The Hague, but also very quickly posed a strategic threat to French and British forces to the south. The small-scale airborne operation on the Albert Canal so shocked and surprised the Allies that the Germans gained immediate moral ascendancy. Further, the Allies hastened reinforcements north, just as the Germans hoped they would, only to find the German main effort coming out of the Ardennes to their rear.

From this example we see that an airborne force made an impact far beyond its size and of far more significance than what many would describe as a tactical action in close proximity to friendly forces. The argument here is that airborne force capabilities so circumvent normal time, space, and size factors that they can accomplish missions of operational impact far beyond the perceived limits of their own size and location of employment. Airborne forces add an element of speed and flexibility to operations that enable them to seize the initiative in the true spirit of AirLand Battle.

A closer look at the historical evolution of the airborne idea will shed more light on the potential use of airborne forces in operational roles.

The Evolution of the Airborne Idea

At the outbreak of World War II the idea of airborne operations was not new. Most major nations by this time had conducted experiments with parachute-landed forces. Only two nations, however, had seriously pursued the concept. The Soviet Union by 1936 had developed a regimental size airborne unit and was working on a division to be employed deep in enemy rear areas in accordance with the maneuver warfare ideas of M.N. Tukhachevsky. He envisioned the use of airborne forces "...to operate between deployed enemy corps, army, and front reserves, arresting the action of those forces throughout the operational depth of the battlefield."¹⁰ Western observers, particularly Major General Archibald Wavell, the British attache at the time, noted after observing the use of an airborne regiment in the Kiev maneuvers of 1936, that the paratroops were "impressive", but of questionable tactical value, since they were too lightly equipped. Thus began the debate over tactical survivability versus capability to act operationally on the battlefield. This debate has largely governed the development of airborne theory ever since.

The airborne idea began to wither in the Soviet army with

the purges of Tukhachevsky and others. It was, however, at the same time being developed by a group of forward thinkers in Germany led by Karl Student. Student believed that parachute-landed troops possessed tremendous potential at the operational level, and so focused development of a German force: "I saw my task in developing the parachute and air-landing troops gradually into battle-deciding significance."¹¹ In 1938 Student was given full support to develop an airborne division to be employed in such combinations with other operations that would enable an exploitation of the tremendous potential of airborne forces to seize the initiative and achieve surprise. We have seen the impact of this vision in the campaign in Western Europe in May of 1940.

While the Germans stunned the Allies with their success along the Albert Canal, the airborne units dropped at Rotterdam and The Hague teetered on the brink of disaster, and were saved only by the timely arrival of link-up forces which had been able to penetrate quickly. These difficulties, however, received scant attention in the euphoria of overall success, and the Germans continued development of their airborne forces with a view toward larger-scale operational employment. General Student did not believe that purely commando or tactical missions justified the use of airborne forces

47

otherwise. He was convinced that airborne forces could be used as the main effort force, even if it meant long periods without conventional ground support. This concept was behind the operation against Crete which, though successful, cost the paratroopers 25% in casualties and resulted in Hitler's authoritative conclusion -- that the surprise factor had been forever lost, and the day of the paratrooper was over.¹² Many would say that Hitler's conclusion was borne out by the Allied airborne experience which followed.

Ironically, the Allies drew inspiration from the Crete operation, and feverishly worked to develop their own airborne forces. Tugwell points out that from the outset the Allies looked at two methods of employment: 1) In direct support of ground forces, that is, tactically; and 2) on missions which, though probably interrelated with other maneuvers, would not form an integral part of the ground force operation and would not directly depend on it.¹³ Thus Allied thinking distinguished tactical from operational primarily in terms of degree of independence. In this they paralleled General Student's thinking of 1941. These two methods represent, incidentally, the predominant thinking in the U.S. Army today on the employment possibilities for airborne forces in other than strategic roles.

The first major test of Allied airborne forces and

doctrine came with the invasion of Sicily in July of 1943. Again, ironically, the Germans and the Allies had differing interpretations of the efficacy of the airborne drop. By most American accounts, the drop of elements of the 505th and 504th Parachute Infantry Regiments between 9 and 11 July 1943 was a tactical disaster. Of 3,400 paratroopers dropped, only 200 landed where they were intended. Paratroopers were spread over some sixty miles of terrain, most of them lost. Tragically, 23 aircraft were shot down by friendly anti-aircraft fire, at the cost of 229 paratroopers and dozens of aircrewmen.¹⁴ Yet, most objectives were taken by small groups of men, while other groups created severe havoc and delay in German rear areas. A determined stand by elements under COL James A. Gavin on Biazza Ridge prevented the Herman Goering division from executing its plan to counterattack the beachhead and drive the American landings near Gela into the sea.¹⁵ The Germans credit the airborne troops with the overall success of the invasion of Sicily. Eisenhower, however, wrote George C. Marshall that he no longer believed that an airborne division could be employed, and Leslie McNair became convinced that nothing larger than a battalion-size drop was practical due to problems of command and control and coordination.¹⁶ Even the 82d Airborne Division commander, Major General Matthew Ridgway, was shocked by the confusion and casualties in the Sicily operation, and only

weakly defended the airborne concept, saying that airborne divisions should be kept intact, but fought as light infantry divisions until the ground and air situation was such that airborne operations could be conducted without great difficulty.¹⁷ A U.S. Army training circular was issued in October of 1943 that deleted such operational missions as assaults to seize airfields or to spearhead vertical envelopments. All that remained of Allied airborne thinking was the very cautious tactical use of airborne forces in support of ground troops.

Higher commanders demonstrated the new caution in developing concepts for the employment of airborne forces in the invasion of the Italian mainland in September of 1943. The first plan was to drop elements of the 82d Airborne Division some 40 miles from the amphibious landings at Salerno to block passes in the Sorrento mountains and deny the Germans the opportunity to attack the beachhead. In light of the overall significance of the airborne operation in establishing the Allies ashore, the 82d's mission was clearly of operational character. It certainly fulfilled the requirements that Tukhachevsky had foreseen for the operational use of airborne forces. Yet as planning continued, support for such a deep drop dwindled due to difficulties of resupply and the need for quick ground reinforcement. In the middle of this planning

debate, a bolder mission was conceived for the 82d, not by airborne planners and thinkers, but by Roosevelt and Churchill -- an airborne seizure of Rome in conjunction with an Italian change of government and declaration of support for the Allies. This mission came very close to execution, but was scrapped at the last moment after extensive argument by Brigadier General Maxwell Taylor and Ridgway that the operation was not feasible. The amphibious assault proceeded as planned and the 82d became Fifth Army's reserve. When the beachhead situation became tenuous on 12 September and then desperate on 13 September, General Clark called for an airborne drop to reinforce the beachhead. There was no time to bring the paratroopers in more safely by sea, and no airstrips on which to air-land them. Clark's message to Ridgway was urgent:

I realize the time normally needed to prepare for a drop, but this is an exception. I want you to make a drop within our lines on the beachhead and I want you to make it tonight. This is a must.¹⁸

Despite serious misgivings among all the airborne planners about making another long flight at night over the water and a night jump into an area of potential friendly anti-aircraft fire, Colonel Reuben Tucker's 504th Parachute Infantry Regiment dropped with 1300 men that night and went immediately into battle against the Germans. Many soldiers and historians believe that the timely addition of combat power, and more

important the moral shot in the arm to Fifth Army swung the tide of battle at the most critical moment back in favor of the Allies.¹³ While this type of operation was not considered one of operational character, the significance of the mission may have made it so.

Soon after the Fifth Army was securely on shore and going on the offensive, the 82d and British 6th Airborne Divisions returned to England to prepare for the invasion of *Festung Europa*. In the campaign in western Europe which began on 6 June 1944 and ended in May of 1945, airborne troops conducted three major operations: Operation Overlord, the invasion of Normandy; Operation Market-Garden, the attempt to outflank the Siegfried Line and seize crossings of the Rhine in the vicinity of Arnhem; and Operation Varsity, the crossing of the Rhine by the British 2d Army supported by XVIII Airborne Corps. Most analysts believe that all the airborne portions of these operations were tactical in nature primarily because they were not independent operations, they were executed in close proximity to friendly troops, or because the airborne operation was secondary to the ground operation.

From the Allied perspective, evaluation of all three airborne operations was generally negative. At Normandy, three airborne divisions landed in close proximity to the main amphibious landings in order to assist them in establishing a

permanent beachhead. Although all airborne objectives were eventually taken, airborne enthusiasts were disappointed. Units were so scattered across the Cotentin Peninsula that divisions were unable to function as divisions for 24 to 48 hours. Those who were less than enthusiastic about airborne operations before Normandy were even more so afterwards. General Eisenhower decided at this critical juncture of the European campaign to withdraw numerous troop carrier assets from support of airborne training in the United Kingdom, and assign them to support resupply of ground forces. He believed that with such aerial resupply ground operations could proceed at a much faster pace, and would render the very risky and costly airborne operations unnecessary.²⁶ To the airborne men, and especially to the commander of the newly created 1st Allied Airborne Army General Louis Brereton, Eisenhower's policies crippled what they considered to be the potentially decisive capabilities of airborne forces. Brereton had seen many bold plans, such as an airborne drop to close the Paris-Orleans gap, or another drop in the Boulogne area to threaten the strategic western flank of German forces in France, dissolve due to lack of support from the Supreme Command. Eisenhower had decided to subordinate the airborne forces to either Montgomery or Bradley and to let them decide how such forces should be used. To Brereton, such a policy was anathema to the whole concept of

airborne operations:

I feel that, inasmuch as the airborne army is a strategic general headquarters reserve, the planning should be held on the Supreme Commander's level. When the planning is below army group level, it represents time wasted, because in practically every case the operation is not feasible or has to be replanned. The conception of the employment of the Airborne Army as a strategic army is not understood.²¹

The subordination of 1st Allied Airborne Army to 21st Army Group on 5 September 1944 at least gave the airborne troops an opportunity to get back into action as airborne forces. 21st Army Group ordered Brereton to prepare plans to seize the Rhine bridges from Arnhem to Wesel to assist a ground advance into the Ruhr. Operation Market-Garden became the legendary "Bridge Too Far" when the British 1st Airborne Division dropped some 60 Kilometers from friendly lines to seize bridges at Arnhem, with supporting drops by the 82d Airborne Division near Nijmegen and the 101st Airborne Division near Eindhoven, all to seize crossing sites over various water obstacles to support the advance of British XXX Corps on the ground. The plan failed as the main ground force could not link up with the British 1st Airborne before it was essentially destroyed. Analysts have disagreed concerning the character of the airborne operations. Joel J. Snow says that the airborne drops were completely tactical, because the airborne phase was secondary to the ground phase, and because the airborne forces planned for and

expected quick link-up with the ground force.²² B.H. Liddell-Hart reflected that the "...strategic prize justified the stake and exceptional boldness of dropping airborne forces so far behind the front."²³ Charles D. McMillin acknowledges the operational character of the airborne mission, but agrees with Snow that the airborne operations then and for the rest of the war were tactical in nature because the airborne forces simply supported the operations of ground forces.²⁴ When one considers, however, that the "strategic prize", that is, the Ruhr, could not be won without the success of the airborne operation, the operational character of the airborne mission becomes evident. Operation Market-Garden fits the FM 100-5 definition of a major operation: it was a coordinated series of actions of large forces in a single phase of a campaign. Regardless of the size of the airborne forces involved, the criticality of the airborne operation to the overall attainment of the strategic goal characterizes the airborne portion of Market-Garden as an operational employment of airborne forces.

The last major airborne operation of the war, Operation Varsity, saw the largest simultaneous airborne drop in history. The entire XVIII Airborne Corps, consisting of the U.S. 17th Airborne Division and the British 6th Airborne Division, dropped in a single lift on the east bank of the Rhine in the vicinity of Wesel in order to "...rapidly deepen the bridgehead

to be seized in an assault crossing of the Rhine by British ground forces, in order to facilitate the further offensive operations of the 2d Army."²⁵ Airborne theorists, particularly reflecting the German concept behind the Crate operation, called the operation tactical because the drop zones were all within supporting artillery range from the west bank of the Rhine and because ground force link-up was planned for and occurred very shortly after the drop. Even General Gavin, the 82d Airborne Division commander, called this a "close-in, tactical" operation.²⁶ This assessment probably proceeds more from the significance of the operation than anything else. The drop itself was probably unnecessary, since the German forces opposing the 2d Army were so weakened by this time that they probably could not have successfully opposed the crossing whether the airdrop drop occurred or not. In fact, the 2d Army was crossing successfully when the paratroopers jumped. Since the drop, therefore, was considered insignificant, the tactical nature of the mission is emphasized. Had the Rhine been heavily defended, however, the significance of the obstacle would have changed the whole character of the operation.

In summary, by the end of World War II enthusiasm for airborne operations had waned, but airborne theory had changed relatively little from the early ideas of Tukhachevsky, Student, and Allied airborne leaders such as Ridgway, Gavin,

and Brereton. The strategic or operational use of an airborne force meant the employment of large forces, at least divisions, in missions that were either completely independent of ground operations, or were at least the main effort of the campaign, with ground forces in secondary, supporting roles. To employ a force in a supporting role to ground forces was to employ it tactically. To employ it within the tactical space of a ground force was to employ it tactically. To employ airborne forces on a small scale was to employ them tactically. And after Crete, Sicily, Normandy, and Market-Garden, it was generally believed that tactical use was probably the only feasible role for airborne forces. Most nations of the world drastically reduced their airborne organizations in the post-war period. In the United States the airborne idea lived on for a number of reasons, many of them sentimental and symbolic. But since World War II the army has limited concepts of how to use those forces to small-scale tactical use, as in Korea and Vietnam, or the very broad strategic use, as in Grenada. History has shown that an airborne force can accomplish missions that have profound operational consequences. The question is, have we sheathed a weapon before its time?

Theory to Practice: The Question of Airborne Feasibility

Before we can discuss operational roles for airborne forces today, we must first deal with the thorny question of

feasibility. Before a senior commander employs a significant airborne force at the operational level he must be convinced of three things: 1) that the force can fly to the target successfully; 2) that it can jump in and survive at reasonable cost in men and materiel; and 3) that it can accomplish a sufficiently important mission to warrant the effort expended. We saw World War II ideas on the operational employment of airborne forces founder on the rocks of feasibility. Both Hitler and Eisenhower at some point concluded that the cost of major airborne operations in both men and materiel outweighed their potential utility. Were they right? Apparently Hitler reconsidered his decision to disallow airborne operations after Crete later in the war, but by that time the Allies had achieved overwhelming air superiority. Hitler's decision that airborne operations were not feasible stood on the grounds of lack of air superiority. In hindsight, the conclusion on both sides that airborne operations were strictly limited by criteria of feasibility may have been somewhat shortsighted. The Allies never developed a vision for what an airborne force could accomplish if launched in manageable size against a significant enough target. The Germans did, but lost support from Hitler when they pushed the scale of airborne operations beyond acceptable loss criteria. In addition to the highly successful operations along the Albert Canal, the Germans also

used airborne forces operationally during the conquest of Greece in April of 1941, and one final time in conquering the Greek island of Leros in 1943. Rather than continue using airborne forces as they had done so successfully in these instances, General Student and his airborne planners continued to push for extremely bold and large-scale, independent airborne operations that eventually led to a check on airborne activities after Crete.

When the Germans used airborne forces at the beginning of World War II, they were actually testing an untried theory, thus their concepts of feasibility were as theoretical as their doctrine of employment. Common sense told them that air superiority was a must, and that heavy demands would be placed on all air assets in both preparation and execution. But beyond that the Germans knew, but did not feel constrained by the fact that once on the ground the airborne force would have to survive isolation, and would have to be sustained completely by air until relieved by ground forces or somehow extracted. After Poland, the Germans were confident in their overall capabilities, and airborne operations became another component of Blitzkrieg. German paratroopers rather fearlessly jumped into Crete, unconstrained except for air superiority and the availability of air transport assets. At the time they had both. After the campaign and its 4,500 casualties, the factor

27

of survivability became for Hitler the overriding criterion.²⁷

The idea of survivability took on another dimension when the Allies, in their first operation, lost 23 transport planes with all aboard to friendly anti-aircraft fire, and a number more to enemy flak. Allied aircraft, furthermore, became so disoriented by bad weather and the long flight over water that troops were widely scattered over several hundred square miles of Sicilian countryside. The Allies recognized that it was not enough to have air superiority and to be able to survive on the ground. It was also necessary that the force be delivered safely and dropped with some reasonable cohesion to enable the mission to succeed. This section will look more closely at the specifics of the first two of the above-stated criteria, while the third will be covered in the next section.

Getting an airborne force to the drop zone is first a question of the availability of transport aircraft. At the beginning of World War II, large scale use of aircraft for resupply was not a common practice, and for the Allies transport aircraft were available and even became plentiful as the industrial base of the United States geared itself for war. Airborne planners early on worried much less about air transport than about the availability of airfields from which to stage.²⁸ Ranges and payload of aircraft were much less than today's. It took 331 C-47 aircraft to lift one airborne

regiment of 3,400 men to Sicily, thus the airfield constraint was significant. Later, however, ground commanders began to assert that transport aircraft could better be used to resupply ground operations. This became Eisenhower's view, as mentioned earlier, and feasibility of airborne operations began to be measured in terms of the drain on aircraft.²⁹ Part of this calculation included the fighter escort necessary to accompany the vulnerable transports. Air superiority remained a strict necessity, and no airborne operation has ever been attempted without it, at least locally. Much planning and coordination was also required to overcome effects of ground fire. Use of circuitous routes, night drops, and neutralization of enemy air defenses were all attempted with only varying success. More often than not, efforts to avoid air defenses caused confusion of aircraft formations, missed drop zones, and wide troop dispersal. More and more the argument heated up over the best use of air assets.

Since World War II, the United States has developed increasingly larger and more expensive transport aircraft. At the same time, peacetime budgets have reduced the air force's capability to build the fleet necessary to transport a significant airborne force. In other words, the feasibility of airborne operations may depend more than ever on the capability of the air force to transport troops to the drop zone.

Ironically, many of the World War II problems no longer plague airborne planners. Modern transport aircraft are equipped with the Adverse Weather Aerial Delivery System to navigate aircraft precisely to the target area. The Computed Air Release Point System and steerable parachutes enable airborne units to hit drop zones with precision. All three developments have virtually eliminated the severe problems of dispersion, command, control, and coordination that created so much doubt concerning the feasibility of airborne operations in World War II.²⁰ Transport planes have much greater payloads and range today. In 1943 it took 331 C-47's to fly an airborne regiment of 3,400 men to Sicily. Now it takes only 90 C-130's or 56 C-141's to transport a light airborne brigade of 3,900 men.²¹ These aircraft have far greater ranges than their previous counterparts. Thus the airfield staging area problem is much less significant today. In fact, the all-weather capabilities and long ranges of aircraft give modern airborne forces a far greater capability to achieve tactical surprise than ever enjoyed in World War II. Unfortunately this advantage has been largely offset by a whole new perspective on the availability of transport aircraft.

A recent joint Military Airlift Command-Training and Doctrine Command Study entitled A Qualitative Intratheater Airlifts Requirements Study (Hereafter QITARS) concludes that

because of the anticipated non-linear battlefield of a European war, all ground forces will be dependent to some degree on airlift for both transportation and sustainment.³² Airborne missions would therefore compete for airlift assets against such other missions as strategic deployment of forces, inter- and intratheater transportation of reinforcements, replacements, and resupply, aeromedical evacuation, and special operations. Civil air reserve aircraft will hopefully assist in these efforts, but MAC believes that requirements will far outweigh resources. Should the war become global, the demand for air transport will skyrocket. The current airborne mission requirement for MAC is to be able to drop one airborne brigade in a single lift.³³ It takes around 20% of the entire U.S. transport fleet to drop a light brigade. To drop a medium brigade, which would include a tank company, air defense battery, and cavalry, engineer, and signal augmentation, would require approximately 45% of MAC's assets. A heavy brigade with a battalion of light tanks would take twice that much, or almost the entire fleet.³⁴ One can see, then, that despite greater carrying capacities of today's aircraft, any airborne operation is going to be an expensive undertaking and must therefore promise great payoff at acceptable risk. This means that tactical use of airborne forces may not be feasible from a resource standpoint. Further, because the air force has

trained aircrews and maintains the capability to deploy only one brigade in a single lift, circumstances of transport resources may drive the size of any operation, at least in the beginning stages of a major conflict.

Some would argue that conditions of lethality of modern air defenses seal the coffin on airborne operations. The lumbering and vulnerable transports simply cannot be risked in cross-FLOT operations. Indeed, enemy air defense capabilities will affect the feasibility of any airborne operation. Studies have shown, however, that significant gaps will develop on the non-linear battlefield in air defense umbrellas. Further gaps can be created by systematic planning. Only one-third of Soviet air defense systems are effective at night, thus the advantage of U.S. all-weather capabilities become even greater.³⁵ The Israelis proved in the 1973 that careful planning and innovative tactics can overcome formidable surface-to-air missile defenses.³⁶ The Army and the Air Force in recent years have significantly improved capabilities for joint suppression of enemy air defenses. The QITARS study looked at U.S. transport operations in Vietnam where a SAM threat existed and concluded that modern defenses could be penetrated, but only with a great deal of planning, coordination of routes, escorts, and suppressive fires. Once surprise is lost, however, the enemy can react by reorienting

lethal SAM systems on the area of the first drop. The cost of bringing in additional forces to the same area might prove excessive.

Assuming, then, that the resources were committed to an airborne operation, and the planning and coordination accomplished, an airborne force could be delivered to a selected drop zone successfully. The problem of sustainment, however, remains. Studies have determined that it would take about fourteen C-130 sorties per day to sustain a medium airborne brigade in a mid-intensity environment.³⁷ One can see that the resupply of an airborne force could become a prolonged and heavy demand on the entire airlift command. Further, the airlift study says that such resupply is possible, but would require "heroic" efforts by all air forces involved. Obviously the thought here is that the problem of getting there for resupply increases dramatically once surprise is lost and the enemy knows that an isolated force is on the ground and dependent upon aerial resupply. It is the opinion of some in the airlift community that the only feasible way to sustain an airborne force is to increase the size of the initial drop and have the airborne force take with it all the supplies it will need until relieved. If this is true, the risk factor involved with an airborne operation becomes high indeed.

In summary, conditions of modern warfare have altered the

perspective on basic criteria of feasibility. Airborne forces can fly to a target area with greater precision than ever before. Airborne units can jump into a drop zone and assemble with a high degree of precision and minimal loss of command and control. Achievement of air superiority and suppression or avoidance of enemy air defenses, on the other hand, may be more formidable challenges today than they were in the past. The capability of the enemy to orient long range SAMS and the proliferation of shoulder-fired heat seeking missiles may make reinforcement and resupply operations prohibitively costly. An airborne force, therefore, must be able to sustain itself until relieved by ground forces. In the early stages of any major conflict the Air Force will be able to transport only brigade-sized or smaller forces. Our thinking and even our doctrine must not fail to envision larger airborne operations; but the QITARS study foresees a heavy, worldwide demand for transport aircraft which will increase with prolonged conflict. Until the U.S. industrial base and Air Force manning and training programs together produce immensely larger transport fleets, only brigade-sized or smaller airborne forces can be employed at the operational level. And until then the mission of such a force must be significant enough to warrant the use of and high risk to scarce air resources. It follows that the mission must be tactically feasible, that is, the force must be

able to survive and accomplish its mission without preclusive losses. In the end this is a judgment on the part of the commander employing the force. All of these criteria, of course, form the framework for a reasoned judgment on a cost-benefit basis of whether an airborne force should be employed at the operational level. The question, then, is can a brigade or smaller airborne force accomplish an operationally significant mission in today's mid- to high-intensity environment?

Operational Employment of Airborne Forces in the 1980's

The last section questioned World War II concepts of the employment of airborne forces as measured against criteria of feasibility that existed in that day. Doctrinal publications and writings on the subject of the employment of airborne forces show that our thinking on operational employment has changed very little.³⁸ We still seem to consider operational employment of airborne forces as somehow paralleling that of conventional ground forces, that is, large airborne forces employed in a major operation to attack the enemy center of gravity. Missing from this concept is the idea of combinations -- that combinations of actions bring about operational consequences. An airborne force has a theater-wide reach and a capability to descend upon an objective with tactically paralyzing suddenness. It is quite possible that we have

failed to develop a vision of what could happen with a force that can transcend the bounds of space and time. General Brereton was on the right track in World War II -- senior command and staff officers failed to see that airborne forces were theater assets and had to be looked at from a theater perspective. The Army today has difficulty understanding the theater perspective of the Air Force on the use of air assets. It seems that the Army also has difficulty seeing the air dimension of its airborne forces, and so restricts airborne employment based on ground force criteria. The Soviets do not seem to have so restricted themselves, and their ideas are worth considering.

In the Soviet Desant concept, "landing forces" are given either *strategicheskiy* (strategic), *operativnyiy* (operational), *takticheskiy* (tactical), or *spetsial* (special) missions.²⁹ At the strategic level, the Soviet concept is much like that of the U.S., and at the tactical level the Soviets focus on the use of helicopters at short ranges. At the operational level, however, either helicopter or parachute-landed forces will operate in close cooperation with other front forces to facilitate achievement of front missions, specifically, penetrations, exploitations, and destruction of large enemy forces. The Soviets envision employing airborne forces in such a manner anywhere from 100 to 300 Kilometers from the line of

contact to secure major terrain features, river crossing sites, and to disrupt enemy efforts to regroup and reestablish defenses, and so on.⁴⁰ They also foresee a link-up with ground forces being necessary within two or three days. Clearly, the need for quick link-up and the secondary, supporting role of the airborne force does not coincide with what we have commonly considered the operational use of airborne forces. Yet the significance of the mission and objective of the airborne force causes the Soviets to term such employment operational. Additionally, the fact that the success of the ground force is dependent upon the success of the airborne force elevates the character of the airborne mission to the operational level.

We have seen an example of just such an operation in World War II in the German actions along the Albert Canal in May of 1940. Other examples of World War II airborne operations reveal the potential for airborne forces to act operationally. It is interesting to note that in many cases those who employed an airborne force in a given operation often had a negative evaluation of its results versus its cost, while those against whom those airborne forces were employed had a very different interpretation of the impact of such forces. In the Crete operation, for example, the Germans focused on the cost of the operation in casualties and thereafter strictly limited their employment of airborne forces. The Allies, on the other hand

looked at the fact that the Germans had seized a very important objective deep behind enemy lines with an airborne force, thus the Allies were spurred on to develop their own airborne capability.

Differing interpretations of operations that followed Crete reveal the operational potential of airborne forces. In the Sicily operation, we saw that the Allies were appalled at the disorganization of the forces as they landed, and that difficulties in coordination resulted in heavy casualties to friendly fire. The Germans, however, stated that the Allied airborne force created such havoc in the German rear that plans for a counterattack of the Allied beachhead failed. In this case very small groups of paratroopers, some no more than a platoon of men, were able to block key roads or other terrain features just long enough for the beachhead to become securely established. A similar situation developed at Normandy. Airborne leaders were chagrined that their forces were so dispersed in the drops that they could not function as divisions for 24 to 48 hours. The Germans, on the other hand, point out that the airborne drops completely tied up German reserves for a critical period during which the beachhead was most vulnerable:

The significant fact is that the air-landings made it possible (for the Allies) to substantially increase the number of forces which had been brought to the mainland during the first phase, thus augmenting the

purely numerical superiority of the attacker over the defender.⁴¹

We can see, then, that an airborne drop in support of an amphibious landing enabled the Allies in both Sicily and Normandy to establish a permanent beachhead before an effective counterattack could be brought against it. The significance of the obstacle can make the airborne drop operational in character. If the airborne operation is clearly the key to success of establishing a strategic lodgment, then it is operational in character.

Another operation related to an amphibious landing was the airborne drop to reinforce the Salerno beachhead. If it is true that the airborne drop, as many on the scene believed, saved the beachhead from being split by the Germans and destroyed, then this drop was of operational character as well. Salerno demonstrates the potential for the use of an airborne force in rear operations on today's extended battlefield. With such a force at his disposal, a theater commander can react flexibly and quickly to any rear area threat.

The operational use of airborne forces in seizing an amphibious beachhead is not quite as controversial as using such forces as the Russians envision, 100 to 300 kilometers from the line of contact. Let us return to Operation Market-Garden. As discussed previously, the explanation for the failure of that operation focuses on the failure of the

ground force to link-up with the airborne forces holding the critical bridges, especially the bridge at Arnhem. The Allied interpretation of the failure caused the Allies to conclude that to assure survivability, an airborne force must be employed closer to friendly lines to effect a quicker link-up. German airborne analysts, however, believed that the Allied plan offered "...the best chances of a major operational success."⁴² Responsibility for failure cannot be laid on the survivability of airborne forces. One battalion of the British 1st Airborne Division held on to one end of the Arnhem bridge for four days against repeated German armored counterattacks. Had drop zones for the rest of the division not been selected some seven miles from the bridge, it probably could have been held much longer. The narrowness of the XXX Corps thrust, the fact that the 82d Airborne Division did not seize a key bridge over the Waal River when it had the opportunity to do so, and failures of intelligence all combine to explain the failure of Market-Garden. These are errors of planning and poor tactics, not lack of capabilities of airborne forces. Perhaps more than any other experience of World War II, Market-Garden led to false conclusions about the capabilities of airborne forces. This operation is a perfect example of how airborne forces could be used as envisioned by the Soviets in their operativnyi desant.

The troubling question of whether a small-scale airborne force, probably all that is feasible today, can accomplish anything operationally significant stands out when we look at the scale of Market-Garden, Varsity and other operations that seemed even tactical in character. The answer lies in developing a true maneuver perspective on the imaginative use of airborne forces in combination with ground elements to accomplish operational ends. In such a construct, airborne forces can achieve surprise, psychological shock, physical momentum, and moral dominance at the decisive point and time. FM 100-5 points out that these aspects of maneuver have historically enabled smaller forces to defeat larger ones.⁴² An operation that uses an airborne force in combination with ground elements can have decisive impact on an entire campaign. If the airborne mission is essential to the overall success of the operation then it is operational in character. Small airborne forces are capable of accomplishing such missions. The Germans conducted other smaller-scale operations besides the famous one on the Albert Canal. On April 25, 1941 they dropped a two battalion regiment with support elements on the Corinthian Isthmus. This force performed a function critical to the swift conquest of Greece. The airborne force held the narrow isthmus and cut the Corinthian Canal, trapping some 10,500 Allied troops on the Peloponnesus who were trying to get

to the Athenian ports for evacuation. The airhead also enabled the 5th Panzer Division, which had landed on the Peloponnesus, to cross the canal swiftly and slice into the Greek mainland from the south.⁴⁴ It is unlikely that the conquest of Greece would have taken a mere five weeks had this small airborne operation not occurred. We have often seen in history how a piece of terrain is the scene of a small scale, tactical action, but later takes on operational significance. Cemetery ridge at Gettysburg is one example, the Remagen bridge another.

Another small-scale example is the German seizure of the small island of Leros later in the war. In this case, one airborne battalion task force was used in support of a two pronged amphibious landing. In this case the seaborne landings began first, and at just the time when the enemy force was assembling reserves, the airborne drop landed between the two amphibious prongs inland and tied up the reserve forces so that they could not counterattack the amphibious landings. This allowed the forces in the beachheads to drive inland and conquer the island in short order.

These two examples provide probably the clearest operational uses for airborne forces -- to tie up reserves and enable the establishment of a permanent beachhead by amphibious forces, and to seize a piece of key terrain beyond the forward line of own troops to enable an operational maneuver by ground

forces. Additionally, small-scale airborne forces can conduct a vertical envelopment of an operational significant obstacle, such as a large river or a mountain pass. From these uses we can easily extrapolate others. The mission of airborne forces supporting an amphibious landing resembles the use of airborne forces as Tukhachevsky envisioned -- the tying down of enemy reserves in operational depths. It is conceivable for small scale airborne forces to tie up a Warsaw Pact second echelon force if the terrain were carefully chosen. Such a mission has great potential for a decisive deep battle if the airborne can fix an enemy force on terrain of the higher commander's choosing just long enough to bring in a ground deep attack. In this concept, extreme precision in the timing of the ground attack to hit the enemy at the right spot is far less contingent on a complicated series of actions happening exactly as planned. The fog of war has often frustrated such maneuvers in the past. On the offense, an airborne force could be similarly used to tie up operational reserves while ground forces penetrated the first defensive belt.

The use of an airborne force to envelop a significant obstacle could be applied to offensive operations against the typical Soviet belt system of defenses. A particular point along the first defensive belt could be chosen for penetration, and an airborne force dropped to envelop it from the rear.

Such an operation is admittedly in that gray area between tactics and operations. A airborne force could accomplish the same end. But again, the Soviets look at the overall significance of the mission and the importance of the airborne operation in it. If the plan is to penetrate to operational depths, and it appears impossible to do so without an airborne envelopment, then the mission is operational.

Finally, we should not forget the Salerno operation as a model. The theater commander has in the airborne force a weapon of great operational flexibility, range, and moral value. The timely insertion of even a small airborne force can turn the tide of battle, whether it be rear, close, or deep operations.

Conclusion

FM 100-5 recognizes that in today's environment the United States Army will have to fight jointly with the other services, particularly the air force. Even the term AirLand Battle points to this recognition. Because of the new jointness of operations all aircraft will be in great demand from ground forces. Senior level commanders will have to establish strict priorities on the use of a heavily demanded asset. For this reason alone, it is highly unlikely that we will ever see in a mid- to high-intensity European war an airborne division employed in the traditional fashion of an independent

operation. An airborne brigade is probably the largest force that could possibly be employed, and that itself is unlikely due to the demands for airlift. Resupply of an airborne force would be extremely hazardous and probably excessively costly under conditions of warfare today. Thus the airborne instrument available to the operational level commander is probably a brigade-minus that will jump in with three to four days of supply, and which must then be relieved by ground link-up or lost. These findings confirm that the operational use of airborne forces is severely constrained.

The limitations on the use of airborne forces operationally, however, seem as much intellectual as physical. Just as the American army as a whole has fought an attrition style of warfare in the past, it has employed its airborne forces with an attrition warfare mentality. Such a mindset goes far to explain why many senior commanders of World War II preferred to employ airborne divisions as conventional ground infantry divisions. We have sought to develop a new maneuver-oriented style of warfare in our AirLand Battle doctrine. We should include in our new thinking some fresh ideas on how to employ airborne forces as an integral part of AirLand Battle. The unique operational flexibility of airborne forces, their capability to surprise, to shock, and to seize the initiative, their ability to envelop vertically, and their

extreme moral value all make them a weapon of the AirLand environment whose time has come.

We have seen how the Germans employed very small, one and two battalion airborne battle groups in combination with other forces to achieve dramatic operational victories. The possible combinations today offer even more potential for the operational commander. The use of small-scale airborne forces to seize key terrain for ground armored thrusts is not new, but can still be decisive. The meshing of helicopter and airborne operations, however, offer possibilities for vertical envelopment never before realized. Because of the cost, and because of the great risk, airborne operations cannot and should not be a commonplace occurrence. They must be planned from a theater perspective and conducted only when conditions are right. This analysis suggests, however, that the day of the paratrooper is not over -- the possibilities for decisive action at the operational level are there.

ENDS NOTES

¹Maurice Tugwell, "Day of the Paratroops," Military Review, Vol. 53, No. 3, March 1977, p. 41.

²Ibid., p. 53.

³William S. Lind, Maneuver Warfare Handbook (Boulder, 1985), pp. 5-8.

⁴Although Rangers made the assault jump into Grenada, their mission was typical of that for which airborne forces train in the 82d Airborne Division.

⁵FM 100-5, Operations (Ft. Leavenworth, KS, 1985), p. 2-2.

⁶Ibid.

⁷See, for example, Joel J. Snow, MAJ, USA, United States Army Airborne Forces: An Instrument of Land Power (Ft. Leavenworth, 1984), p. 23.

⁸Wayne M. Hall, MAJ, USA, "A Theoretical Perspective of AirLand Battle Doctrine," Military Review, Vol. LXVI, No. 3, March 1986, p. 33.

⁹Guenther Brusstar, The Soviet Airborne Forces (Washington, D.C., 1982), p. viii.

¹⁰David M. Glantz, LTC, USA, The Soviet Airborne Experience (Ft. Leavenworth, 1984), p. 8.

¹¹Snow, p. 23.

¹²Tugwell, p. 48.

¹³Maurice Tugwell, Airborne To Battle (London, 1971), p. 36.

¹⁴James A. Huston, Out of the Blue (West Lafayette, IND, 1972), pp. 157-161.

¹⁵Louis Matz, MAJ, USAF, Brigade Airdrop Reaction Force (Maxwell, AFB, 1984), p. 9.

¹⁶Clay Blair, Ridgway's Paratroopers (Garden City, 1985), p. 127.

¹⁷Huston, p. 162.

¹⁸Blair, p. 175.

¹⁹Blair, p. 178.

²⁰Huston, p. 193.

²¹Entry in Brereton's diary for 5 September 1944, referenced in Huston, p. 197.

²²Snow, p. 28.

²³Liddell-Hart, quoted Charles D. McMillin, MAJ, USA, RRoles and Missions of Airborne, Ranger, and Special Forces Contingency Operations (Ft. Leavenworth, KS, 1979), p. 13.

²⁴McMillin, p. 12.

²⁵James M. Gavin, LTG, USA, Airborne at War (Washington, D.C., 1951), p. 34.

²⁶Ibid.

²⁷Tugwell, "Day of the Paratrooper," p. 48.

²⁸Gavin, p. 151.

²⁹McMillin, p. 13.

³⁰John A. Ford and Robert M. Elton, "The Airborne: A General Purpose Force," Infantry, March-April, 1975, pp. 14-15.

³¹Ibid., p. 19.

³²United States Air Force, A Qualitative Intratheater Airlifts Requirements Study (Scott AFB, ILL, 1985), p. C-14.

³³Ibid., p. xiii.

³⁴Ibid., Table B-4.

³⁵Craig H. Pearson, MAJ, USA, "Joint Army Aviation/Air Force Deep Operations at Night: Is It Tactically Feasible, and If So, How?" SAMS Monograph (Ft. Leavenworth, KS, 1985), p. 21.

³⁶Garry A. Schnelzer, MAJ, USAF, Aerial Resupply of Encircled Army Units During a Mid-Intensity European War. MMAS Thesis (Ft. Leavenworth, KS, 1977), p. 48.

³⁷Telephone conversation with MAJ John Latimer, Division Plans Officer, 82d Airborne Division, who gave evidence determined in a recent study done to update resupply standing operating procedures in the 82d.

³⁸Tugwell, Airborne to Battle, pp. 77-78.

²⁹David M. Glantz, LTC, USA, The Soviet Airborne Experience (Ft. Leavenworth, 1984), pp. 155-157.

³⁰Ibid., p. 156.

³¹DA Pam 20-232, Airborne Operations: A German Appraisal (Washington, D.C., 1951), p. 34.

³²Tugwell, "Day of the Paratrooper," p. 48.

³³FM 100-5, p. 2-4.

³⁴Tugwell, Airborne to Battle, pp. 76-78.

BIBLIOGRAPHY

Books

Brereton, Lewis H., LTG, USA, Ret., The Brereton Diaries. New York: W. Morrow & Company, 1946.

Crookenden, Napier. Airborne at War. London: Charles Scribner's Sons, 1978.

Davis, Brian L. German Parachute Forces, 1935-45. New York: Arco Publishing Company, 1974.

Farrar-Hockley, Anthony. Airborne Carpet: Operation Market-Garden. New York: Ballantine Books, 1969.

Galvin, John R. Air Assault. New York: Hawthorne Books, 1969.

Gavin, James M., LTG, USA. Airborne Warfare. Washington, D.C.: Infantry Journal Press, 1947.

Gavin, James M., LTG, USA, Ret. On to Berlin: Battles of an Airborne Commander, 1943-1946. New York: The Viking Press, 1978.

Gregory, Barry. British Airborne Troops, 1940-45. New York: Doubleday & Company, 1974.

Greenfield, Kent R., Palmer, Robert R., and Bell I. Wiley. The Organization of Ground Combat Troops. Official History of the United States Army in World War II. Washington, D.C.: U.S. Government Printing Office, 1947.

Heilbrunn, Otto. Warfare in the Enemy's Rear. New York: Frederick A. Praeger, Company, Inc., 1963.

Hickey, Michael. Out of the Sky: History of Airborne Warfare. New York: Scribner's Sons, 1979.

Hoyt, Edwin P. Airborne: The History of American Parachute Forces. New York: Stein and Day, 1979.

Huston, James. Out of the Blue: U.S. Army Airborne Operations of World War II. West Lafayette, Ind.: Purdue University Press, 1972.

Lind, William S. Maneuver Warfare Handbook. Boulder, CO: Westview Press, 1985.

Lisov, Ivan Ivanovich, LTG, USSR. Airborne troops of the Soviet

Army. Moscow: Novosti Press, 1974.

MacDonald, Charles B. Airborne. New York: Ballantine Books, 1970.

MacDonald, Charles B. The Mighty Endeavor: American Armed Forces in the European Theater in World War II. New York: Oxford University Press, 1969.

Miksche, Ferdinand O. Paratroops. New York: Random House, 1943.

Mrazek, James E. The Fall of Eben Emael: Prelude to Dunkirk. Privately Published, 1970.

Roberts, Arch E. United States Army 187th Airborne RCT, 1942-1956. Nashville, TN: Rakkasan Club, Benson Printing Company, 1956.

Ryan, Cornelius. A Bridge Too Far. New York: Simon and Schuster, 1974.

de Ste. Croix, Phillip. Airborne Operations. London: Salamander Books, 1978.

Tugwell, Maurice. Airborne to Battle: History of Airborne Warfare, 1968-1971. London: William Kimber & Company, 1971.

Articles

Ashey, Bob. "J-SEAD: Doing It Together." Field Artillery Journal. Vol. 85, April, 1985.

Babiassy, Frank E. "The Leak in the Soviet Air Defense Umbrella." Aviation Digest. November, 1981.

Barbara, James C. and Robert F. Brown. "Deep Thrust in the Extended Battlefield." Military Review. October, 1982.

Barry, Charles L. "Planning Aviation Cross-FLOT Operations." Military Review. Vol. 64, January, 1984.

Beaumont, Roger A. "Airborne: Life Cycle of a Military Sub-Culture." Military Review. Vol. LI, No. 6, June, 1971.

Belov, M. "Airlanding Forces." Soviet Military Review. January, 1979.

Boylan, Peter J., COL, USA, "Power Projection, Risk, and the Light Force." Military Review. Vol. 62, May, 1982.

This Document
Reproduced From
Best Available Copy

Bradshaw, John N. "Airborne vs. Airmobile -- Is There a Need for Both?" Army Aviation. Vol. 17, No. 10, October, 1968.

Clements, John. "Air Defense Mythology." Journal of the Royal United Services Institute for Defence studies. April, 1985.

Donovan, Leo and J.J. Gleason. "Division in Heaven: The Staff Work of Airborne Troops." Military Review. June, 1941.

Ford, John A. and Robert M. Elton. "The Airborne: A General Purpose Force." Infantry. Vol. 65, No. 2, March-April, 1975.

Galvin, Jack, MG, USA, "The Heavy-Light Concept." Armed Forces Journal. Vol. 119, No. 11, July, 1982.

Gillis, Charles A., MAJ, USA. "The Future of Airborne Forces." Military Review. Vol. 44, No. 9, September, 1964.

Hall, Wayne M., MAJ, USA. "A Theoretical Perspective of AirLand Battle Doctrine." Military Review. Vol. LXVI, No. 3, March, 1986.

Hardenne, R.F., MAJ, Belgian Army. "Airborne Forces in Nuclear War." Military Review. Vol. XLIV, No. 1, January, 1964.

Hessman, James and Benjamin F. Schemmer. "The Airborne: Obsolete?" Armed Forces Journal. Vol. 106, No. 10, November, 1968.

Holder, D.L. "Maneuver in the Deep Battle." Military Review. May, 1982.

Lee, William C., LTC, USA. "Air Landing Divisions." Infantry Journal. April, 1941.

Luttwak, Edward N. "The Operational Level of War." International Security. Winter, 1980-81.

Maddox, Bobby J. "Landpower's Third Dimension." Army. Vol. 34, March, 1984.

Richardson, William R., GEN, USA. "FM100-5: The Airland Battle in 1986." Military Review. Vol. LXVI, No. 3, March, 1986.

Tugwell, Maurice. "Day of the Paratroops." Military Review. Vol. 53, No. 3, March 1977.

Ware, Fletcher. "the Airborne Division and a Strategic Concept." Army. Vol. 56, No. 3, March, 1976.

Authors Unnamed. "The 82d Airborne Division." Infantry. Vol. 69, No. 2, March-April, 1979.

Student Papers and Government Publications

Blumentritt, Guenther. Operations against Rear Lines of Communications. Foreign Military MS No. B-684, Historical Division, U.S. Army Europe: 1947.

Brusstar, James H., MAJ, USA. The Soviet Airborne Forces. Defense Intelligence Agency. Washington, D.C.: U.S. Government Printing Office, 1 February 1982.

Gay, Mark P., MAJ, USA. The Field Artillery in Support of Deep Offensive Missions. MMAS Thesis, USACGSC, Ft. Leavenworth, KS: 1985.

Glantz, David M., LTC, USA. The Soviet Airborne Experience. CSI Research Survey No. 4, USACGSC, Ft. Leavenworth, KS: 1984.

Hockensmith, William R. Israeli Air Combat Kill Ratios Over the Beqa'a Valley -- How Analogous of USAF Capability Against the Soviets? Report from the Air Command and Staff College, Maxwell, AFB, AL.

Hood, Carlton L., MAJ, USA. Determining the Optimum Aviation Organization for the Operational Level of War. MMAS Thesis, USACGSC, Ft. Leavenworth, KS: 1984.

Matz, Louis H., MAJ, USAF. Brigade Airdrop Reaction Force. Air Command and Staff College, Maxwell AFB, AL: 1984.

McMillin, Charles D., MAJ, USA. Roles and Missions of Airborne, Ranger, and Special Forces in Contingency Operations. MMAS Thesis, USACGSC, Ft. Leavenworth, KS: 1979.

Pearson, Craig H., MAJ, USA. "Joint Army Aviation/Air Force Deep Operations at Night: Is It Tactically Feasible, and If So, How?" SAMS Monograph, USACGSC, Ft. Leavenworth, KS: 27 November 1985.

Peterman, Robert W. "A J-SAK Summary." Report to the USA Command and General Staff College, 31 December 1984.

Rippe, Stephen T. An Army and Air Force Issue: Principles and Procedures for Airland Warfare. MMAS Thesis, USACGSC, Ft. Leavenworth, KS: 1985.

Schnielzer, Garry A., MAJ, USAF. Aerial Resupply of Encircled Army Units During a Mid-Intensity European War. MMAS

Thesis, USACGSC, Ft. Leavenworth, KS: 1977.

Show, Joel J., MAJ, USA. United States Army Airborne Forces; An Instrument of Land Power, 1990-2000. MMAS Thesis, USACGSC, Ft. Leavenworth, KS: 1984.

Tempton, Willie A. "The Corps Aviation Brigade in the Deep Attack." US Army War College Military Studies Program Paper, AWC, Carlisle, PA: 1 June 1985.

Wilson, Ronald W., MAJ, USA. Corps Combat Aviation Brigade in the Rear Battle: A Future Scenario. MMAS Thesis, USACGSC, Ft. Leavenworth, KS: 1985.

United States Air Force. A Qualitative Intratheater Airlifts Requirements Study. Airlift Concepts and Requirements Agency, MAC-TRADOC, Scott AFB, IL: 30 November 1985.

United States Army. RB 71-102, Infantry and Airborne Division and Brigade Operations. USACGSC, Ft. Leavenworth, KS: July 1978.

United States Army. Airborne Division Operations. Subject M312-6, USAIS, Ft. Benning, GA: 1978-79.

United States Army. DA PAM 20-232, Airborne Operations: A German Appraisal. Washington, D.C.: U.S. Government Printing Office, October, 1951.

United States Army. TRADOC PAM 525-16, Joint Operational Concept Joint Attack of the Second Echelon. Ft. Monroe, VA: 13 December 1982.

United States Army. TRADOC After Action Report to Observations Noted During JRX Gallant Knight '83. AirLand Battle Training Division, Unit Training Support Directorate, Ft. Leavenworth, KS: 1983.

United States Army. TRADOC Training Text 100-44-1, Joint Suppression of Enemy Air Defenses. Ft. Monroe, VA: 11 June 1982.

This Document
Reproduced From
Best Available Copy